

**A1267**

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9:00 AM - 11:00 AM

Room Hall E2-Area A,

## **Hemispheric Synchronized Sounds and Perioperative Analgesic Requirements**

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The use of hemispheric synchronized (Hemi-Sync) sounds in the operating room has been promoted to decrease anxiety, perioperative anesthetic or analgesic consumption but data is limited. 60 ambulatory patients were consented and randomized into 3 groups: treatment group had hemisync sounds (n=20), music group had music tapes of their choice (n=20), and control (placebo) group had a blank cassette tape (n=20). The intervention was applied in the preoperative area and during the surgical procedure. After a propofol-nitrous-vecuronium general anesthesia perioperative analgesic requirements were recorded. To ensure uniformity of hypnotic depth in all participants a bispectral index monitor was used. The Hemi-Sync group had a significantly reduced intraoperative analgesic consumption compared to the music (p=0.02) and control group (p = 0.04). Although pain (VAS) scores were significantly less in the Hemi-Sync group 1 hour and 24 hours after surgery, analgesic requirements were similar among the three groups throughout the 24 hour postoperative period. Time to discharge trended lower in participants who had Hemi-Sync (p=.058); incidence of nausea/vomiting, oxygen desaturation, patient recall, and patient satisfaction were similar in all groups. We conclude that the use Hemi-Sync sounds before and during general anesthesia decreases intraoperative but not postoperative analgesic requirements.[table1][table2]

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[table 1] Baseline Characteristics

Variable	HemiSync group	Music group	Control group	P value
Age (yr)	42.3 +/- 13.8	41.2 +/- 13.1	41.1 +/- 10.5	0.94
Education (yr)	15.5 +/- 03.0	13.9 +/- 02.5	14.9 +/- 03.0	0.19
Sex (% male; % female)	38/62	45/55	28/72	0.55
State anxiety (STAI)	40.0 +/- 13.0	42.2 +/- 11.6	43.4 +/- 10.7	0.65
Trait anxiety (STAI)	34.8 +/- 09.0	40.6 +/- 11.4	39.8 +/- 08.2	0.13
Prior surgery (%)	25/75	24/76	39/61	0.53
Weight (kg)	74.6 +/- 14.9	76.7 +/- 17.8	74.1 +/- 18.0	0.88

Continuous data were analyzed by one way ANOVA, categorical data by chi-square test

[table 2] Results

Variable	Hemisync group	Music group	Control group	P value
Intraop Fentanyl *	14.6 +/- 6.9	20.9 +/- 9.1	20.3 +/- 9.4	0.046
Postop (PACU) analgesic**	15.0 +/- 12.9	14.4 +/-13.2	16.9 +/- 12.8	0.830
Postop (Home) analgesic**	18.6 +/-11.6	28.0 +/-16.4	25.0 +/- 13.1	0.099
Total periop analgesic	48.3+/- 21.8	62.6+/- 29.1	61.7+/- 24.0	0.144
VAS score T0 in PACU	3.8 +/- 3.4	4.5 +/- 3.3	5.4 +/- 2.5	0.300
VAS score T10 in PACU	4.0 +/- 3.3	3.8 +/- 2.7	5.2 +/- 2.3	0.258
VAS Score T20 in PACU	3.6 +/- 2.8	4.5 +/- 2.4	4.3 +/- 2.2	0.520
VAS Score T30 in PACU	3.5 +/- 2.0	3.4 +/- 1.4	4.1 +/- 2.4	0.541
VAS score T60 in PACU	2.6 +/- 1.6	4.2 +/- 2.1	3.9 +/- 1.7	0.020
VAS score 24 hrs postop	3.5 +/- 1.5	5.3 +/- 1.8	5.0 +/- 2.0	0.005

Discharge time	120.2 +/-37.3	156.6 +/-65.6	162.8 +/-68.2	0.058
PONV	0.1 +/- 0.5	0.2 +/- 0.4	0.2 +/- 0.4	0.608
Recall	0	0	0	N/A
Patient satisfaction	3.9 +/- 0.2	4.0 +/- 0.2	3.9 +/- 0.4	0.124
Total propofol (mcg/min/kg)***	0.18 +/- 0.06	0.17 +/- 0.04	0.20 +/- 0.13	0.43

\*fentanyl requirements in mcg converted to IV morphine mg equivalents